



Gas Purge Vent Device

Models
969-9116
969-9117
969-9118

MANUALE DI ISTRUZIONI

INSTRUCTION MANUAL

Purge-Vent Device Control Unit



Purge-Vent Device





Dear Customer,

Thank you for purchasing a VARIAN vacuum product. At VARIAN Vacuum Technologies we make every effort to ensure that you will be satisfied with the product and/or service you have purchased.

As part of our Continuous Improvement effort, we ask that you report to us any problem you may have had with the purchase or operation of our product. On the back side you find a Corrective Action Request form that you may fill out in the first part and return to us.

This form is intended to supplement normal lines of communications and to resolve problems that existing systems are not addressing in an adequate or timely manner.

Upon receipt of your Corrective Action Request we will determine the Root Cause of the problem and take the necessary actions to eliminate it. You will be contacted by one of our employees who will review the problem with you and update you, with the second part of the same form, on our actions.

Your business is very important to us. Please, take the time and let us know how we can improve.

Sincerely,

Sergio PIRAS

Vice President and General Manager
VARIAN Vacuum Technologies

Note: Fax or mail the Customer Request for Action (see backside page) to VARIAN Vacuum Technologies (Torino) - Quality Assurance or to your nearest VARIAN representative for onward transmission to the same address.

CUSTOMER REQUEST FOR CORRECTIVE / PREVENTIVE / IMPROVEMENT ACTION

TO : VARIAN VACUUM TECHNOLOGIES TORINO - QUALITY ASSURANCE

FAX N° : XXXX - 011 - 9979350

ADDRESS: VARIAN S.p.A. - Via F.Ili Varian, 54 - 10040 Leini (Torino) - Italy

E-MAIL : marco.marzio@varianinc.com

NAME _____	COMPANY _____	FUNCTION _____
ADDRESS : _____		
TEL. N° : _____	FAX N° : _____	
E-MAIL : _____		
PROBLEM / SUGGESTION : _____ _____ _____ _____ _____		
REFERENCE INFORMATION (model n°, serial n°, ordering information, time to failure after installation, etc.) : _____ _____ _____ _____		
		DATE _____

CORRECTIVE ACTION PLAN / ACTUATION (by VARIAN VTT) _____ _____ _____ _____ _____	LOG N° _____
--	--------------

XXXX = Code for dialing Italy from your country (es. 01139 from USA; 00139 from Japan, etc.)



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INFORMAZIONI GENERALI

Questa apparecchiatura è destinata ad uso professionale. L'utilizzatore deve leggere attentamente il presente manuale di istruzioni ed ogni altra informazione addizionale fornita dalla Varian prima dell'utilizzo dell'apparecchiatura. La Varian si ritiene sollevata da eventuali responsabilità dovute all'inosservanza totale o parziale delle istruzioni, ad uso improprio da parte di personale non addestrato, ad interventi non autorizzati o ad uso contrario alle normative nazionali specifiche.

Nei paragrafi seguenti sono riportate tutte le informazioni necessarie a garantire la sicurezza dell'operatore durante l'utilizzo dell'apparecchiatura.

Questo manuale utilizza le seguenti convenzioni:



PERICOLO!

I messaggi di pericolo attirano l'attenzione dell'operatore su una procedura o una pratica specifica che, se non eseguita in modo corretto, potrebbe provocare gravi lesioni personali.



ATTENZIONE!

I messaggi di attenzione sono visualizzati prima di procedure che, se non osservate, potrebbero causare danni all'apparecchiatura.

NOTA

Le note contengono informazioni importanti estrapolate dal testo.

DESCRIZIONE DEL GAS PURGE VENT DEVICE

Il Gas Purge Vent Device è un accessorio delle pompe Turbo-V ICE specifico per evitare l'ostruzione di una pompa quando è utilizzata con gas che producono condensa.

In particolare la sua principale applicazione è con l'uso di pompe inserite in sistemi di impiantazione ioni dove vengono usati gas contenenti fosforo e arsenico.

Il suo uso in altri sistemi è in teoria possibile, ma va verificato dai tecnici della Varian.

Quando il dispositivo è installato correttamente sulla pompa (vedere le istruzioni seguenti), fornisce un flusso continuo di gas attraverso la porta di purge ed un flusso continuo di gas inerte di pulizia degli stadi Macrotorri attraverso la porta di vent in modo da mantenere puliti i canali della pompa. Il flusso è opportunamente calibrato in modo da non influenzare la pressione della porta di ingresso.

Quando la pompa viene arrestata, viene inviato un doppio flusso di gas di vent attraverso le due porte di purge e di vent così da mantenere una differenza di pressione positiva sui cuscinetti in modo da proteggerli dall'azione di gas corrosivi anche in caso di una improvvisa apertura della pompa.

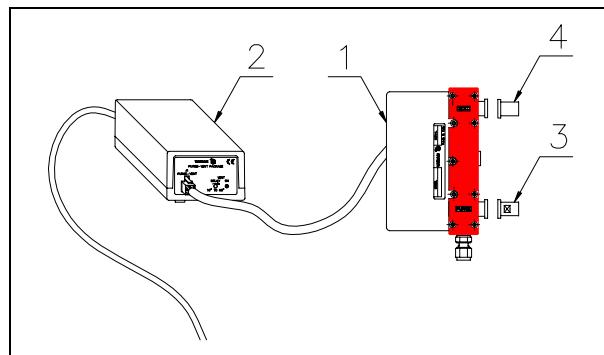
L'unità di controllo del dispositivo gestisce una adeguata sequenza di apertura della valvola.

Sono disponibili tre modelli di Gas Purge Vent Device corrispondenti ad altrettanti tipi di pompe:

- modello 969-9116 per le pompe Turbo-V 1000 ICE e 2000 ICE;
- modello 969-9117 per le pompe Turbo -V 550 e 700 ICE;
- modello 969-9118 per la pompa Turbo-V 300 ICE.

Il Gas Purge Vent Device è fornito con (vedere la figura seguente):

- un collettore con due porte NW10 (particolare 1);
- una unità di controllo (particolare 2)
- un insieme flangia NW10 - adattatore M12 + anello centratore (particolare 3);
- un insieme flangia NW10 - adattatore M8 + anello centratore (particolare 4);
- questo manuale.



Gas Purge Vent Device

IMMAGAZZINAMENTO

Durante il trasporto e l'immagazzinamento del Gas Purge Vent Device non devono essere superate le seguenti condizioni ambientali:

- temperatura da 20 °C a +70 °C
- umidità relativa: 0 - 95% (non condensante)

PREPARAZIONE PER L'INSTALLAZIONE

Il Gas Purge Vent Device viene fornito in un imballo protettivo speciale; se si presentano segni di danni, che potrebbero essersi verificati durante il trasporto, contattare l'ufficio vendite locale.

Durante l'operazione di disinballo, prestare particolare attenzione a non lasciar cadere gli elementi e a non sotoporli ad urti che possano danneggiarli.

Non disperdere l'imballo nell'ambiente. Il materiale è completamente riciclabile e risponde alla direttiva CEE 85/399 per la tutela dell'ambiente.

ISTRUZIONI DI MONTAGGIO



PERICOLO!

La procedura seguente deve essere eseguita con la pompa ferma e scollegata dall'unità di controllo.

Inoltre l'unità di controllo deve essere scollegata dalla rete elettrica di alimentazione

Fare riferimento alla figura seguente.

1. Rimuovere la valvola di gas purge installata sulla pompa (1). Fare attenzione a non introdurre nella pompa polvere o altre particelle.
2. Installare la flangia e l'adattatore (2).
3. Rimuovere la copertura della porta di vent (o la flangia di vent) ed installare la flangia e l'adattatore (3).
4. Allineare le flange sulla pompa con le flange sul collettore (4) seguendo le indicazioni delle etichette, **vent con vent**, e **purge con purge**.



ATTENZIONE!

E' possibile invertire questi collegamenti. Assicurarsi che le connessioni corrispondano a quanto indicato sulle etichette!

5. Collegare la porta d'ingresso del collettore indicata con l'etichetta "Supply XX psig" ad una linea di alimentazione di azoto secco (5).



ATTENZIONE!

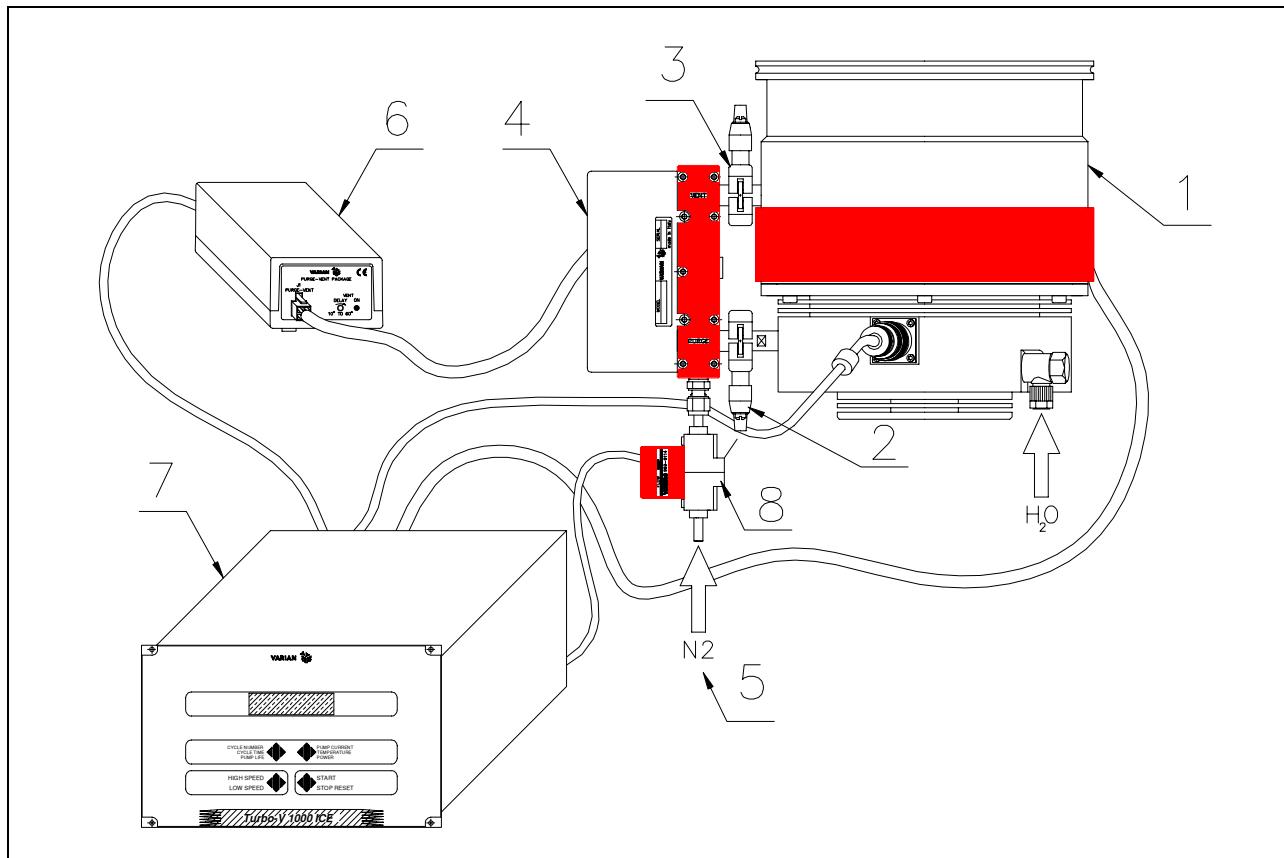
La pressione di alimentazione dell'azoto deve corrispondere a quanto indicato sull'etichetta. Non usare in questo momento pressioni differenti (vedere il paragrafo ISTRUZIONI DI USO per le regolazioni finali).

6. Collegare il cavo del collettore alla propria unità di controllo (6).
7. Collegare il cavo di alimentazione dell'unità di controllo alla presa di alimentazione a 120 Vac sul pannello posteriore dell'unità di controllo (7) della pompa.

ISTRUZIONI DI USO

1. Terminata l'installazione verificare il corretto funzionamento del Gas Purge Vent Device. Far funzionare la pompa nel sistema in condizioni di inattività (senza alcun processo attivo). Verificare che il LED verde sul collettore sia acceso quando la pompa viene avviata.
2. Misurare il flusso di azoto al collettore tramite l'accessorio Solid State Flowmeter (8) (modello 969-9114). Il flusso totale indicato non deve essere inferiore a 30 sccm e non deve superare i 40 sccm. Non utilizzare mai una pressione superiore a 15 psig durante la regolazione!
3. Regolare la pressione in modo da avere una lettura del flusso continuo tra 30 e 40 sccm.

Se le verifiche suddette non sono soddisfatte, rivolgersi all'assistenza Varian.



GENERAL INFORMATION

This equipment is destined for use by professionals. The user should read this instruction manual and any other additional information supplied by Varian before operating the equipment. Varian will not be held responsible for any events occurring due to non-compliance, even partial, with these instructions, improper use by untrained persons, non-authorised interference with the equipment or any action contrary to that provided for by specific national standards.

The following paragraphs contain all the information necessary to guarantee the safety of the operator when using the equipment.

Detailed information about the installed equipment are available into the supplied relevant technical manuals.

This manual uses the following standard protocol:



WARNING!

The warning messages are for attracting the attention of the operator to a particular procedure or practice which, if not followed correctly, could lead to serious injury.



CAUTION

The caution messages are displayed before procedures which, if not followed, could cause damage to the equipment.

NOTE

The notes contain important information taken from the text.

GAS PURGE VENT DEVICE DESCRIPTION

The gas purge vent device is an Turbo-V ICE pump accessory designed to prevent the pump from clogging whenever it is used with condensable gases.

Its primary application is use with pumps working on Ion Implanters Systems where mainly phosphorus and arsenic containing gases are used.

The use of this accessory in other applications is in theory possible, but it must be verified with the factory. Please contact Varian VPT in this case.

When the gas purge vent device is properly installed on the pump (see the following instructions), it provides a continuous gas purge flow through the standard pump gas purge port and a continuous Macrotorr cleaning inert gas flow through the standard pump vent port to maintain the pump channels in clean conditions. This flow is calibrated not to affect the pump inlet pressure.

When the pump is stopped, a double vent flow is injected into the pump through the vent and gas purge port to keep a positive difference of pressure through the pump bearings, protecting them from contamination with corrosive gases even during a pump sudden vent.

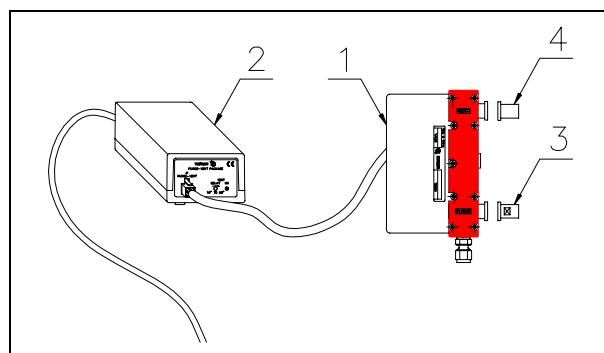
A proper valve opening sequence is provided by the manifold control unit.

Three Gas Purge Vent Device models are available:

- model 969-9116 for Turbo-V 1000 ICE and 2000 ICE pumps;
- model 969-9117 for Turbo -V 550 and 700 ICE pumps;
- model 969-9118 for Turbo-V 300 ICE pump.

The gas purge vent device is provided with (see the following figure):

- a valved manifold with two NW10 ports (item 1);
- an electronic driving unit (item 2);
- a gas purge port NW10 flange - M12 adapter + center ring (item 3);
- a vent port NW10 flange - M8 adapter + center ring (item 4);
- this manual.



Gas Purge Vent Device

STORAGE

When transporting and storing the Gas Purge Vent Device the following environmental requirements should be satisfied:

- temperature: from -20 °C to +70 °C
- relative humidity: 0 - 95% (without condensation)

PREPARATION FOR INSTALLATION

The Gas Purge Vent Device is supplied in a special protective packing. If this shows signs of damage which may have occurred during transport, contact your local sales office.

When unpacking the device, be sure not to drop it, avoid any kind of sudden impact or shock vibration to it.

Do not dispose of the packing materials in an unauthorised manner. The material is 100% recyclable and complies with EEC Directive 85/399.

MOUNTING INSTRUCTIONS



WARNING!

The following procedure must be performed with the pump stopped and disconnected from the pump controller. The pump controller must also be unplugged from the power line.

Refer to the following figure.

1. Remove the installed gas purge valve from the pump (1). Use care not to introduce any dust or particles.
2. Install the gas purge flange adapter (2).
3. Remove the vent cap (or vent flange) and insert the vent flange adapter (3).
4. Align the flanges on the pump with the flanges on the manifold module (4) according to the labels, **vent to vent** and **purge to purge**.



CAUTION

It is possible to reverse these connections. Make sure connection is made according to label markings!

5. Connect the manifold module inlet port, indicated with "Supply XX psig" to a dry nitrogen supplying line (5).



CAUTION

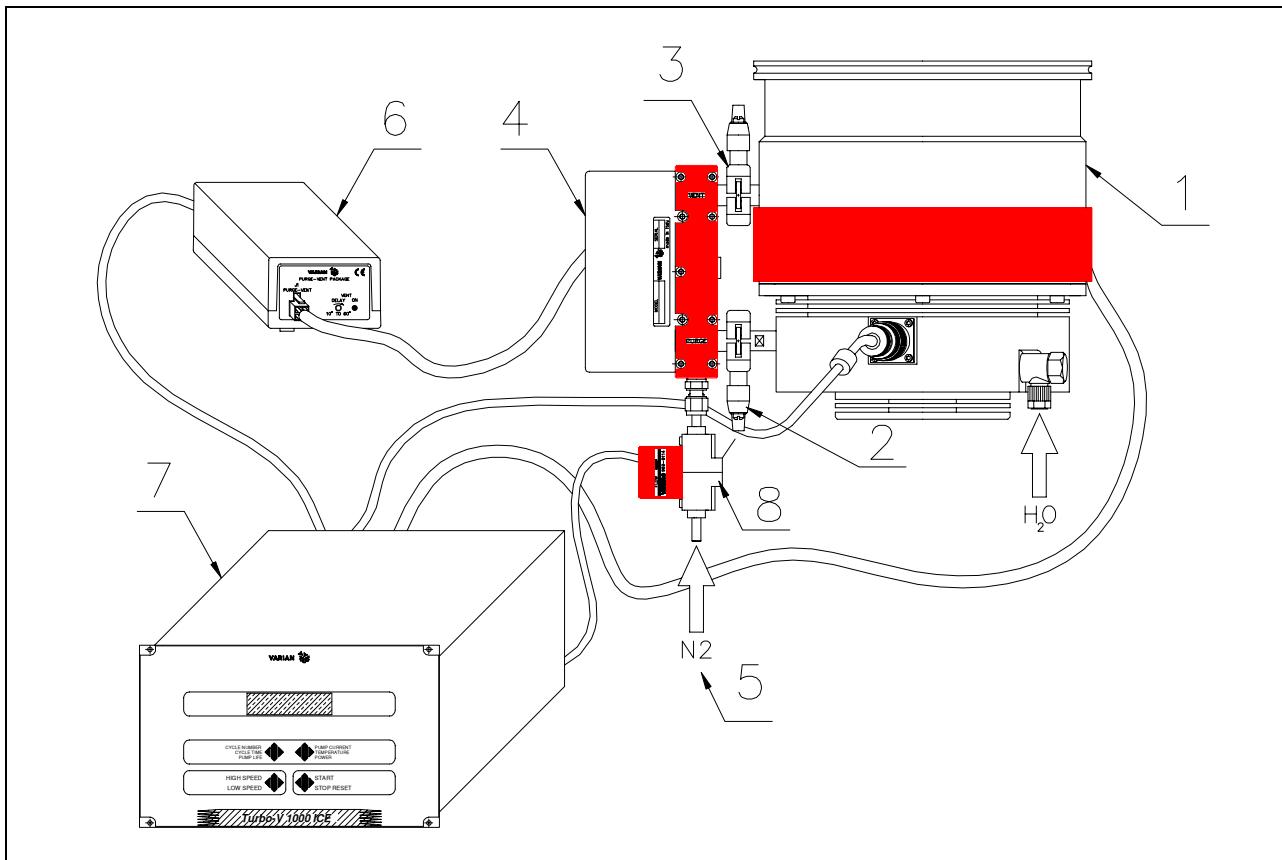
Set the nitrogen supplying pressure to the pressure indicated on the label. Do not use a different supply pressure at this time (see the following OPERATING INSTRUCTIONS paragraph for final adjustments).

6. Plug the manifold cable into the control unit (6).
7. Plug the control unit into a 120 AC port on the ICE pump controller rear panel (7).

OPERATING INSTRUCTIONS

1. After the installation, verify that the gas purge vent device is working correctly. Operate the pump on the system in idle (no process) conditions. Confirm that the green LED on the manifold module is on when the pump is started.
2. Measuring the flow provided to the manifold module with the ICE pump solid state flowmeter accessory (8) (model 969-9114). The total flow indicated must be no less than 30 sccm and no more than 40 sccm. Never use a pressure higher than 15 psig for the adjustment!
3. Adjust the supply pressure until the flow reading is set between 30 sccm and 40 sccm, continuous flow.

Contact the Varian factory, technical support, if there are any problems with this procedure.





Request for Return



1. A Return Authorization Number (RA#) **WILL NOT** be issued until this Request for Return is completely filled out, signed and returned to Varian Customer Service.
2. Return shipments shall be made in compliance with local and international **Shipping Regulations** (IATA, DOT, UN).
3. The customer is expected to take the following actions to ensure the **Safety** of workers at Varian: (a) Drain any oils or other liquids, (b) Purge or flush all gasses, (c) Wipe off any excess residues in or on the equipment, (d) Package the equipment to prevent shipping damage, (for Advance Exchanges please use packing material from replacement unit).
4. Make sure the shipping documents clearly show the RA# and then return the package to the Varian location nearest you.

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Asia and ROW

Varian Vacuum Technologies
Local Office

CUSTOMER INFORMATION

Company name:	
Contact person: Name:	Tel:
Fax:	E-Mail:
Ship Method: Shipping Collect #:	P.O.#:
<u>Europe only:</u> VAT reg. Number:	<u>USA only:</u> <input type="checkbox"/> Taxable <input type="checkbox"/> Non-taxable
Customer Ship To:	Customer Bill To:

PRODUCT IDENTIFICATION

Product Description	Varian P/N	Varian S/N	Purchase Reference

TYPE OF RETURN (check appropriate box)

<input type="checkbox"/> Paid Exchange	<input type="checkbox"/> Paid Repair	<input type="checkbox"/> Warranty Exchange	<input type="checkbox"/> Warranty Repair	<input type="checkbox"/> Loaner Return
<input type="checkbox"/> Credit	<input type="checkbox"/> Shipping Error	<input type="checkbox"/> Evaluation Return	<input type="checkbox"/> Calibration	<input type="checkbox"/> Other

HEALTH and SAFETY CERTIFICATION

Varian Vacuum Technologies **CAN NOT ACCEPT** any equipment which contains **BIOLOGICAL HAZARDS** or **RADIOACTIVITY**. Call Varian Customer Service to discuss alternatives if this requirement presents a problem.

The equipment listed above (check one):

HAS NOT been exposed to any toxic or hazardous materials

OR

HAS been exposed to any toxic or hazardous materials. In case of this selection, check boxes for any materials that equipment was exposed to, check all categories that apply:

Toxic Corrosive Reactive Flammable Explosive Biological Radioactive

List all toxic or hazardous materials. Include product name, chemical name and chemical symbol or formula.

Print Name: Customer Authorized Signature:

Print Title: Date:/...../.....

NOTE: If a product is received at Varian which is contaminated with a toxic or hazardous material that was not disclosed, **the customer will be held responsible** for all costs incurred to ensure the safe handling of the product, and **is liable** for any harm or injury to Varian employees as well as to any third party occurring as a result of exposure to toxic or hazardous materials present in the product.

Do not write below this line

Notification (RA#): Customer ID#: Equipment #:



Request for Return



FAILURE REPORT

TURBO PUMPS and TURBOCONTROLLERS

<input type="checkbox"/> Does not start	<input type="checkbox"/> Noise	POSITION	PARAMETERS
<input type="checkbox"/> Does not spin freely	<input type="checkbox"/> Vibrations	<input type="checkbox"/> Vertical	Power: Rotational Speed:
<input type="checkbox"/> Does not reach full speed	<input type="checkbox"/> Leak	<input type="checkbox"/> Horizontal	Current: Inlet Pressure:
<input type="checkbox"/> Mechanical Contact	<input type="checkbox"/> Overtemperature	<input type="checkbox"/> Upside-down	Temp 1: Foreline Pressure:
<input type="checkbox"/> Cooling defective		<input type="checkbox"/> Other:	Temp 2: Purge flow:
		OPERATION TIME:

TURBOCONTROLLER ERROR MESSAGE:

ION PUMPS/CONTROLLERS

<input type="checkbox"/> Bad feedthrough	<input type="checkbox"/> Poor vacuum
<input type="checkbox"/> Vacuum leak	<input type="checkbox"/> High voltage problem
<input type="checkbox"/> Error code on display	<input type="checkbox"/> Other
Customer application:	

VALVES/COMPONENTS

<input type="checkbox"/> Main seal leak	<input type="checkbox"/> Bellows leak
<input type="checkbox"/> Solenoid failure	<input type="checkbox"/> Damaged flange
<input type="checkbox"/> Damaged sealing area	<input type="checkbox"/> Other
Customer application:	

LEAK DETECTORS

<input type="checkbox"/> Cannot calibrate	<input type="checkbox"/> No zero/high background
<input type="checkbox"/> Vacuum system unstable	<input type="checkbox"/> Cannot reach test mode
<input type="checkbox"/> Failed to start	<input type="checkbox"/> Other
Customer application:	

INSTRUMENTS

<input type="checkbox"/> Gauge tube not working	<input type="checkbox"/> Display problem
<input type="checkbox"/> Communication failure	<input type="checkbox"/> Degas not working
<input type="checkbox"/> Error code on display	<input type="checkbox"/> Other
Customer application:	

PRIMARY PUMPS

<input type="checkbox"/> Pump doesn't start	<input type="checkbox"/> Noisy pump (describe)
<input type="checkbox"/> Doesn't reach vacuum	<input type="checkbox"/> Over temperature
<input type="checkbox"/> Pump seized	<input type="checkbox"/> Other
Customer application:	

DIFFUSION PUMPS

<input type="checkbox"/> Heater failure	<input type="checkbox"/> Electrical problem
<input type="checkbox"/> Doesn't reach vacuum	<input type="checkbox"/> Cooling coil damage
<input type="checkbox"/> Vacuum leak	<input type="checkbox"/> Other
Customer application:	

FAILURE DESCRIPTION

(Please describe in detail the nature of the malfunction to assist us in performing failure analysis):

NOTA: Su richiesta questo documento è disponibile anche in Tedesco, Italiano e Francese.

REMARQUE : Sur demande ce document est également disponible en allemand, italien et français.

HINWEIS: Auf Anfrage ist diese Unterlage auch auf Deutsch, Italienisch und Französisch erhältlich.

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Customer Service & Technical Support:

vtt.customer.service@varianinc.com

Worldwide Web Site:

www.varianinc.com/vacuum

Order On-line:

www.evarian.com

Representatives in most countries



VARIAN